

ENVIRONMENTAL PROTECTION AGENCY
REGION III
INTERIM CONSTRUCTION INSPECTION REPORT

Name of Facility Hamilton Township Sanitary Sewerage Report Number 03
System Grant Number C-420916-01
Location R. D. #4, Chambersburg, PA 17201 Grant Amount \$4,841,020.00

Section I. General

1. Applicant Hamilton Township Municipal Authority
2. Brief Project Description Construct gravity pipelines, force mains, and five pumping stations to service approximately 1,500 EDU in Hamilton Township.
3. Date Visited 13 September 1979 Date Prior Visit 6 June 1979
4. Status of Grant Schedule: Date Construction Start 11 January 1979
Original Completion Date 3 July 1980 (Four Day Time Extension as a
Revised Completion Date 7 July 1980 result of Change Orders.)
Scheduled percent this date 64% thru 31 August 1979
Actual percent this date 63% thru 31 August 1979
Number of EPA Payment Requests submitted and total amount (8) \$2,426,800.00
Number of payments received by applicant and total amount (7) \$2,010,800.00
Actual percent complete this date by EPA payments Received 42%
5. This inspection performed by James A. Smith, Jr., P.E., U.S. Army, Corps of Engrs,
Philadelphia District, Chambersburg Area Office, Telephone (717) 264-8012
6. Consultant Arrowood, Inc., Post Office Box 433, Chambersburg, PA 17201
7. Persons Contacted:

<u>Name</u>	<u>Title</u>	<u>Employer</u>	<u>Telephone</u>
<u>Dennis Black,</u>	<u>Resident Engineer,</u>	<u>Arrowood, Inc.</u>	<u>(717) 264-4540</u>
<u>A. L. Arrowood,</u>	<u>President,</u>	<u>Arrowood, Inc.</u>	<u>(717) 263-8794</u>
<u>Laurie Greene,</u>	<u>Accountant,</u>	<u>Arrowood, Inc.</u>	<u>(717) 263-8794</u>
<u>Same Garnes,</u>	<u>Estimator,</u>	<u>Arrowood, Inc.</u>	<u>(717) 263-8794</u>

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Section II. Administration/Management

1. Daily log of construction, who keeps, is it acceptable?

Each inspector keeps a daily log, Resident Engineer maintains a master diary
(hard bound books). Resident Engineer and inspector's logs were accurate and
up-to-date.

2. Method of recording construction deficiencies and method of recording correction thereof. (Show complete sequences.)

Deficiencies are generally recorded on the quantity sheets and inspector's
field books. Corrections were reported as being recorded in the field books,
also. Mr. Black reported that Contractors' response to date has been good.

3. How is work approved prior to payment? By whom? (for unit price items)

Mr. Arrowood reports that the Resident Engineer makes his own payment estimate,
compares this to the contractor's estimate and finalizes this with con-
tractor. Mr. Arrowood then submits estimate to Authority for payment.
Resident Engineer and Inspectors measure quantities for unit price items on
a daily basis.

4. How is received equipment inspected and approved prior to payment?

Equipment and materials are checked by inspectors prior to installation and
payment. Materials are paid for only after installation with the exception
of pumps.

5. Change Orders. How many - how estimated and approved prior to commencing work?

Five change orders have been approved by the Authority. Change orders for
unit price items are estimated by the Consultant, recommended to the
Authority by Mr. Arrowood and approved by the Authority. Non-unit price
items are estimated by Consultant and cost negotiated with contractor.

6. Change Order Log

Grantee: Hamilton Township Municipal Auth.

Gravity Lines and Force Main

Grant No.: C-420916-01

[illegible]

7. Construction inspection

Supervising Inspector & Employer Dennis Black

Inspectors & Employers Lisa Hoover (Clerk), K. Shives, T. Crouse, G. Diehl,
K. Breighner, J. Phipps (T. Nickles - paid by authority).

Describe chain of command and efficiency of operation.

Inspectors report to Mr. Black, Resident Engineer, who reports to Mr. Arrowood,
President. Mr. Arrowood in turn reports to the Authority.

8. Treatment plant operation during construction. New N/A Addition
If addition or modification, obtain past and present operational records.
Include copies of permit data or complete the below:

Permit No. Not Applicable

Permit Parameters	Prior to Construction		During Construction	
	(Date <u>Infl</u>)	(Date <u>Effl</u>)	(Date <u>Infl</u>)	(Date <u>Effl</u>)

NOT APPLICABLE

9. Plant or Unit Process Bypassing During Construction Not Applicable

10. Milestone Dates:* (Repeat below for additional contracts.)

[illegible]

* J - Target
B - Actual

Section III. Interferences to job (Strikes, equipment, deliveries, etc., and proposed resolution).

None reported.

Section IV. Permit Program

1. Was a Section 404 or Section 404/10 permit issued? Yes _____ No X
2. If yes, does construction appear to be in compliance with the plans and conditions of the permit?
3. If no, is any work being performed or proposed in any waterway, wetlands, etc.? Yes X (give details) No _____

Four small stream crossings are in contract and covered by Nationwide Blanket Permit. Construction has been completed on all crossings.

Section V. Quality of Construction

1. Test Requirements: (Repeat below for additional contracts.)

Contract: 1 thru 4 - Gravity and Force Mains

	Spec. Requirements	Test Result	Final Resolution
Soil Compaction	90% of max. dry density by AASHTO Method T-99 Maximum of 50 tests for Contracts 1 thru 4, plus alternates.	3 tests since last Interim: 92.9% Avg.	Passed
Concrete Cylinder	Class A (Structural) 3,000 psi min Class B (Non-Struc.) 2,500 psi min NOTE: 28-day break not received at last Interim for Class B Concrete; has been received = 3,650 avg.	No test run since last interim.	----- Passed.
Equipment	None		
Sewer Line Grades	Branches and centerline of manholes checked by Contractor Cut sheets submitted to and checked by Inspectors, who also	No errors have been encountered by follow-up surveys on inverts. Alignment checked prior to backfill. check grades daily.	
Gravity Lines	Low Pressure Air Test	1 failed to date. Logs	Passed
Pressure Lines	Hydrostatic water test @ 150 psi for two hours.	are up-to-date & accurate. None tested to date.	-----
Manholes	Infiltration/Exfiltration Tests	Spot checked for infiltration.	
Certifications for	as needed. pipe and pre-cast manholes on file at Field Office.	Repaired where needed.	Passed.

Contract: 5 - Pumping Stations

	Spec. Requirement	Test Result	Final Resolution
Soil Compaction	None, except for subgrade replaced with fill, which is compacted to 90% (AASHTO T-99).	NO	-----
Concrete Cylinder	Class A (Structural) 3,000 psi min.	WORK	-----
Equipment	Operational Tests at factory and after installation of pumps and generators.	PERFORMED	-----
Sewer Line Grades	Checked by Inspectors	TO	-----
Gravity Lines -	Low Pressure Air Test		-----
Pressure Lines -	Two hr. Hydrostatic 150 psi Test		-----
Manholes -	Exfiltration/Infiltration as needed.	DATE	-----

Contract:			
	Spec Requirement	Test Result	Final Resolution
Soil Compaction			
Concrete Cylinder			
Equipment			
Sewer Line Grades			
Other			

2. Appearance of Construction (By Contract)

Concrete work Concrete strength and placement in manholes to date is satisfactory. Risers are properly supported. Pipe encasements, where required, are satisfactory. No structural concrete has yet been placed on pump stations.

Earth work Satisfactory. Trenches are properly braced by trench boxes and/or shoring. Backfill is tamped by hand wackers. Compaction test results to date are satisfactory.

Electrical work None to date (pump stations).

Form and Frame work None required to date (pump stations).

Masonry work Only work to date has been on metering station along Commerce Street. Block is properly set and joints raked and accurate. Finish satisfactory.

Mechanical work None to date (pump stations).

Pipeline construction Pipes are properly bedded and true to line and grade.
Air test results are properly documented and up-to-date. Only two sections
to date have failed and contractor is correcting both.

Paving and street repair Problems encountered with temporary paving have
been resolved to PennDOT's satisfaction. Permanent paving on State Highways
to date has been very good. Full overlays of some Township roads are being
considered at this time by Township and Engineer.

3. Project Sign Two, erected at field office.
4. Federal Wage Rates Posted Yes, at contractors' field trailers.
5. General Project Maintenance and Site Conditions General site conditions are
satisfactory. Sites are policed daily and trenches closed up or barricaded.
Water trucks are used for mud and dust control. Traffic on State Roads is
protected by signing, pylons, and flagmen.

Section VI. Summary of Significant Construction or Management Deficiencies.

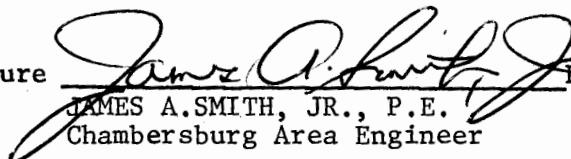
None.



Section VII. Brief abstract of the interim inspection.

1. Inspection conducted at Engineer's field trailer with Resident Engineer.
Mr. Arrowood and the Grantee did not attend as they were in Harrisburg for a meeting with Pennsylvania Department of Environmental Resources to request additional funding for Township road restoration. The results of that meeting are not known at this time.
2. The construction is presently on schedule and no delays are anticipated.
Quality of construction is satisfactory and meets requirements of contract.
Testing to date has been properly conducted and documented.
3. Five change orders have been approved by the Authority and are awaiting Farmers Home Administration approval prior to submission.
4. The Grant Payment Schedule, as previously revised on 21 May 1979, is accurate and properly reflects contractors' projected earnings.
5. Payrolls for the period 1 May thru 15 August 1979 are on file and reviewed by Grantee. Periodic checks revealed no discrepancies.
6. It was discovered during inspection that lawn restoration crew was not applying lime as called for in the specifications. This was corrected immediately by the Engineer.
7. Overall condition of the project at the time of this inspection is satisfactory.

Inspector's Signature


JAMES A. SMITH, JR., P.E.
Chambersburg Area Engineer

Date 13 September 1979